1086-65-680 **Fidele F Ngwane***, 807 Hampton street, Walterboro, SC 29488, and **Samuel N Jator**.

Trigonometrically-fitted block hybrid second derivative algorithm for oscillatory problems.

A continuous hybrid Second Derivative Method (CHSDM) whose coefficients depend on the frequency and stepsize is constructed using Trigonometric basis functions. Some discrete hybrid Second Derivative Methods are recovered from the CHSDM as by-products and applied as a block hybrid Second Derivative Algorithm (BHSDA) to solve oscillatory initial value problems (IVPs). We discuss the stability properties of the BHSDA and present numerical experiments to demonstrate the efficiency of the method. (Received September 11, 2012)